port and agricultural sectors as well an investment of Rs. 5140 crores in energy conservation schemes can save a capital expenditure of Rs. 7980 crores on capacity build-up in the energy supplying sector, besides improving the operations of the consuming sector by avoiding a recurring annual energy bill of Rs. 3100 crores. Short term., medium term and long term measures with corresponding investments and savings have also been indicated;

(ii) Suitable recommendations have been made for installation of heat recovery systems, energy audit services, R&D conservation cells and consultancy organisations, etc;

(iii) Good house-keeping measures, such as, tuning of combustion equipment, 'avoiding leakages, better insulation, proper maintenance, optimum use of capacity, etc., go a long way in reducing energy consumption levels;

(iv) The report emphasises the need for accepting co-generation as a standard practice for optimising the use of fuel for process heat and power generation;

(v) In the transport sector, the need is indicate^ for upgrading driving skills and maintenance practices, improving vehicle designs and instituting fuel efficiency standards, alongwith the traditional recommendations, such as, abolishing of octroi check post, energy optimisation in railway transport and optimising inter-model mix of transport;

(vi) In the agricultural sector, the need is indicated for rectifying the defects in the pumping systems, such as high resistance foot valves, pipe-ling configurations, matching of pumps and prime movers etc. Organisation arrangements for undertaking appropriate programmes have also been re-commended;

(vii) The need for mass education programmes for the farmers and mandatory standards for pumping systems has been recommended;

(viii) Financing energy conservation investments would require preferential treatment. It would be necessary to set apart separate budgets for energy conservation.

NTPC and REC entering to Capital Market

1415. SHRI J. P. GOYAL; Will the Minister of ENERGY be pleased to state:

(a) whether it is a fact that the National Thermal Power Corporation and the Rural Electrification Corporation have entered into the capital market;

(b) if so, what are the details of the issue of bonds by each corporation; and

(c) what has been the response of the investors to these bonds?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) Yes, Sir.

(b) and (c) The National Thermal Power Corporation (NTPC) floated bonds for a total amount of Rs. 100 crores in the denomination of Rs. 1000 each, while the Rural Electrification Corporation (REC) have floated the same for an amount of Rs. 65 crores in denominations of Rs. 1000 and Rs. 10,000 each. These bonds, redeemable after 7 years, have both cumulative & non-cumulative schemes of interest at 14 per cent annum and carry benefits under the Income Tax and Wealth Tax Acts. The bonds are transferable by endorsement and delivery.

The collections (upto 4th March, 1986) by the NTPC are reported at Rs 129 crores. The REC Bonds were floated on 3-3-1986.

Electric power required by U.P.

1416. SHRI J. P. GOYAL: Will the Minister of ENERGY be pleased to state:

(a) the quantum of electric power required and the extent to which it remained unfulfilled at the end of Sixth Five Year Plan in Uttar Pradesh;

(b) the extent to which the power generation is likely to be increased in the State by each new power station during the Seventh Five Year Plan indicating the names of these new power stations;

(c) whether U.P. will become self-sufficient in the matter of electricity through its own means or by obtaining assistance from the Centre during the Seventh Five Year Plan; and

(d) if so, how and if not, the reasons thereof?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) During 1984-85, the terminal year of the Sixth Five Year Plan, the energy availability in U. P. was 14,193 MU as against the anticipated requirement of 16,352 MU.

(b) During the Seventh Five Year Plan period, it is programmed to commission the following new generating capacity in U. P.

Maneribhali Hydro Electric Scheme Stage-TI	304 MW
Anpara 'A' Thermal Station	630 MW
Tanda Thermal Station	440 MW
Unchahar Thermal Station	420 MW
TOTAL :	1794 MW

The State will also get its share of power from the units being commissioned during the Seventh Five Year Plan in the Central Sector such as Singrauli super thermal power station, Rihand super thermal power station, Narora Atomic Power Station and Chamera Hydro Electric Scheme.

(c) and (d) As per the twelfth electric power survey, the anticipated energy requirement of U. P. at the end 1989-90 is expected to be 30,749 MU against which the energy availability is likely to be 30,121 MU. In order to further increase the availability of power in the Seventy Plan, short gestation gas-based power stations with a total capacity of about 1030 MW are also being set up in the northern region. Efforts are being made *to* improve the performance of existing thermal power stations for which a Centrally sponsored renovation and modernisation scheme is under implementation. Need for reducing transmission and distribution losses and taking measures to conserve energy is also being emphasised to improve the availability of power.

Plant load factor of Patratu and Barauni

1417. SHRI CHATURANAN MISHRA: Will the Minister of ENERGY be pleased to state:

(a) what has been the plant load factor of Patratu and Barauni Power Plants of Bihar during the last three years as compared to national average; and

(b) what are Government's proposals to improve it?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) The Plant Load Factor of Patratu and Barauni thermal power stations as compared to the national average during the year 1983-84, 1984-85 and 1985-86 was as given below:-

	PLF (%)		
	1983-84	1984-85	1985-86 (April-Feb.)
Patratu	30.3	33.0	40.1
Barauni	15.57	21.3	17.7
All India	47.9	50.1	51.9